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Digging through mud not as bad as it sounds according to Ashley Woods '13

Summary: The Plymouth native is researching the effects of ditch drainage into Lake Wakanga near Willmar.

(November 9, 2011)-Fifty years ago, a wastewater treatment plant near Willmar dug a ditch to funnel treated water into Lake Wakanga and back into the ecosystem. Though no longer used by the wastewater treatment plan, the ditch is still in use today. It winds through three miles of farmland and alongside roadways before it reaches the lake. As with all water systems, there is the possibility that untreated rainwater runoff traveling through the ditch to Lake Wakanga could be contaminated by chemicals and pesticides. University of Minnesota, Morris Professor of Geology James Cotter and Ashley Woods ’13, Plymouth, a geology and environmental science major, are looking at the effect this ditch has had on the lake over the last half century.

Cotter and Woods’ approach is to take core samples of lake sediment that has built up at the mouth of the ditch. Coring involves taking a hollow, metal cylinder and pushing it into the sediments that make up the delta, essentially an island that has formed at the mouth of the ditch. The cores have a one-way stopper, allowing sediment in, but preventing it from falling out. Sediment is then transferred into test tubes for analysis.

Core samples were taken over the summer of 2011 to test the process and then again in late October to get the final results. The samples are tested for lead, phosphorous, and a still-to-be-determined farm chemical. Not a lot of research has been done on the seemingly simple solution of dumping wastewater into lakes, and the research done near Willmar could be used as an example for other lakes. Area farmers, lakeshore property owners, and local fishers use Lake Wakanga. And the water eventually works its way back into the surrounding ecosystem. As Woods points out, “It’s always good to know what’s going on in our lakes after all Minnesota has so many.”

Woods says that the whole project has been a learning experience. As very little research currently exists, she has had to research on topics related to, as opposed to directly about, their project to examine the feasibility. She wanted to work on this project because it tied so well with her majors: geology and environmental science. Originally interested in marine biology, this position with Professor Cotter has helped her realize what kind of employment she wants in the future that will best utilize her two interests.

“I’ve realized I can do both geology and environmental science while looking at ocean ecosystems.” She adds, “Every time we go out to the field, we come back covered in mud, dirt, debris, and it’s a lot of fun. When you come back like that, you know you’ve really been doing something you know it’s been worthwhile.”

Funding for this project comes from the University of Minnesota Center for Urban and Regional Affairs’ (CURA) Community Assistantship Program (CAP). CURA connects the resources of the University of Minnesota with the interests and needs of urban communities and the region for the benefit of all. CURA pursues its urban and regional mission by facilitating and supporting connections between state and local governments, neighborhoods, and nonprofit organizations, and relevant resources at the University, including faculty and students from appropriate campuses, colleges, centers or departments.

The Community Assistantship Program (CAP) provides applied research assistance to community-based groups outside the Twin Cities Metro Area. The research and technical needs of community organizations are matched with the support of talented students. The idea is simple: get the resources of a great University working with communities to address the significant issues facing the people of Minnesota. CAP projects typically place students in a community defined and directed part time research assistantship for one semester or over the summer. Students are selected by and report to the community organization. Throughout the project students are supported by a community supervisor, faculty, and community mentors.

The Center for Small Towns is a community outreach program housed on the Morris campus that serves as a point-of-entry to the resources of the University of Minnesota. Small towns, local units of government, K–12 schools, nonprofit organizations, and other University units are able to utilize CST's resources as they work on rural issues or make contributions to rural society. CST's mission is to focus the University's attention and marshal its resources toward assisting Minnesota's small towns with locally identified issues while creating applied learning opportunities for faculty and students.

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